# wood.



City of Bethlehem
Stormwater Utility Creation
& Fee Implementation

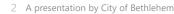
Michael Alkhal, P.E. Director of Public Works

Matthew Dorner
Deputy Director of Public Works

December 1, 2020

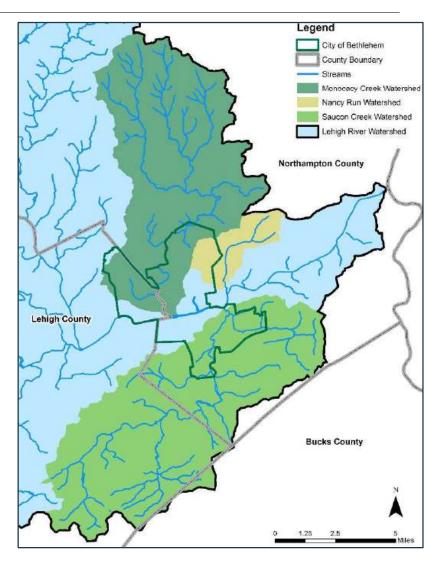
# Agenda

- Welcome
- City of Bethlehem Stormwater
  - Challenges
  - Bethlehem's SW Management Infrastructure
  - Bethlehem's Current & Future Costs
- Stormwater Utility
  - Background
  - Bethlehem User Fee Development
- Other Pennsylvania SW Utilities
- Timeline
- What to expect
  - Fees
  - Opportunities to Offset Fees
- Questions



# City of Bethlehem Stormwater





# City of Bethlehem User Fee – Drivers for Change

#### Water Quality Permit

- Federal Permit Issued by PADEP
- Current Permit issued in 2003
- Increased oversight & enforcement by EPA and PADEP
- Aging/Deteriorating Infrastructure
- Local Flooding Issues



For Small & Large cities

- 2 Large MS4s in PA (Allentown & Philadelphia)
- 1,059 Small MS4s in PA

Stormwater management is no longer about getting rainfall off property and into the streams as fast as possible.

#### **Important Role for City Services Today:**

- 1. Storm Sewer Replacement Needs valued at over \$12 million.
- 2. Protect property from stormwater impacts.
- 3. Protect streams by reducing pollutants carried by stormwater.
- 4. Reinvest in capital assets to extend life or replace before failures occur.
- 5. Additional future Regulatory Requirements are a certainty





### Permit Requirements

#### City's PADEP National Pollutant Discharge Elimination System (NPDES) Permit # PAI132210

Regulates pollutants discharging through non-point sources to a Water of the U.S.

#### What is MS4?

M - Municipal

S4 – Separate Storm Sewer System

#### **MS4 Program**

Requires a Stormwater Program Plan to:

- Contain goals for 6 Minimum Control Measures (MCMs)
- Contain specific activities to meet goals of each MCM
- Implement an MS4 Stormwater Ordinance
- Submit Pollutant Reduction Plan (PRP)



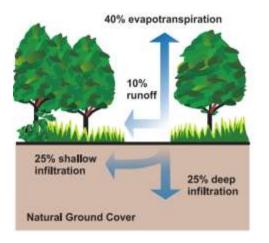


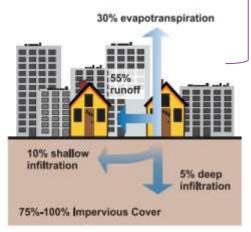
### Permit Requirements

#### **MS4 Program**

#### Six Minimum Control Measures

- Public Education/Outreach on Stormwater Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention/Good Housekeeping





- Compliance and Enforcement on Development and Other Land Uses
- Wet Weather Monitoring
- Dry Weather Monitoring
- Spill Response
- Public Education and Outreach
- Post-Construction Stormwater Management
- System Maintenance
- Watershed Protection
- Municipal Good Housekeeping
- Municipal Training
- Industrial Inspections
- Total Daily Maximum Load (TMDL) Plans



# Permit Requirements

#### **Pollutant Reduction Plans (PRP)**

- Part of MS4 Permit requirement
- Development of a Stormwater Management Plan for the City
- Reduce Pollutant discharges to Water Quality Impaired Streams
  - PADEP Requirement:
     10% Sediment Reductions

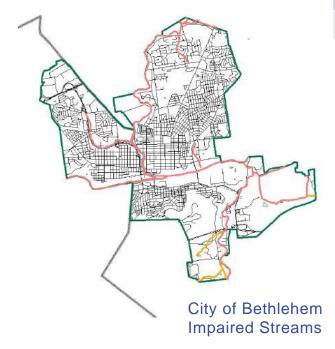
#### **City of Bethlehem PRP New Costs:**

BMP#	BMP Description	Total 5 Year Cost		
1	Storm Sewer Systems Solids Removal	\$512,000		
2	Street Sweeping	\$0		
3	Basin Retrofit – 6 basins	\$1,200,000		
4	New BMP Facilities – 5 BMPs	\$1,500,000		
5	Streambank Restoration - 360 feet	\$324,000		
	TOTAL	\$3,536,000		

#### **Upcoming PRP Projects:**







# Challenges

### **Flooding**





Creek Road











Monocacy Creek Road

# Challenges

### **Aging Infrastructure**









# Challenges

### **Storm Cleanup**





#### Hurricane Sandy



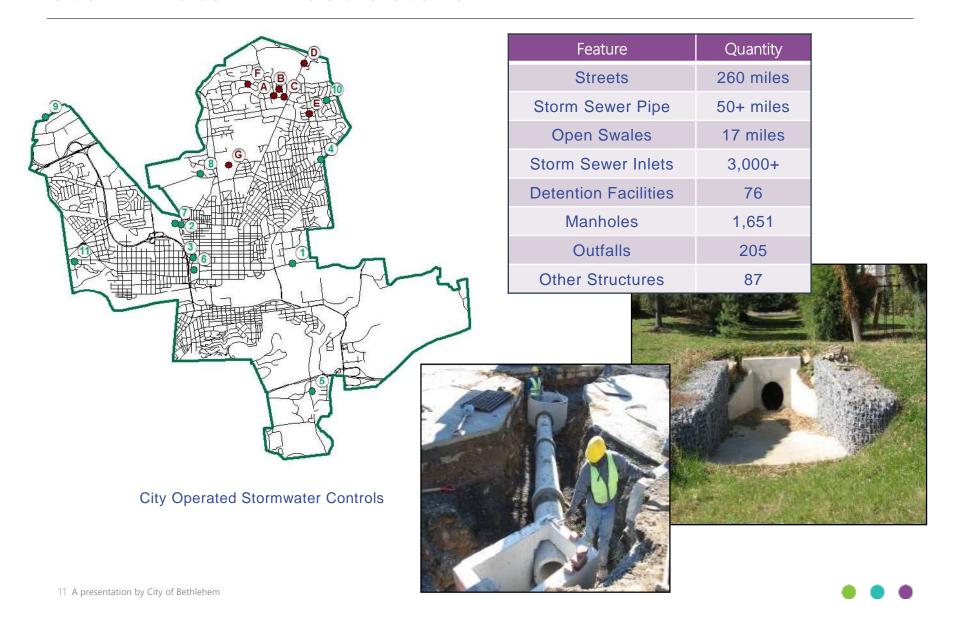








### Stormwater Infrastructure



# Current and Future Costs

#### **Summary of Current Costs for Bethlehem, PA**

	FY20		
Personnel	\$954,514		
Direct Costs	\$312,613		
Capital	\$387,500		
Totals	\$1,654,627		

#### **Summary of Future Program Forecast for Bethlehem, PA**

	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Personnel	\$1,340,931	\$1,367,749	\$1,538,325	\$1,826,375	\$1,858,712	\$2,057,613	\$2,379,480	\$2,422,879
Direct Costs	\$515,487	\$462,755	\$829,470	\$714,384	\$729,471	\$776,670	\$838,278	\$806,103
Capital	\$922,500	\$1,347,500	\$1,587,294	\$1,587,500	\$2,000,000	\$1,700,000	\$1,524,000	\$1,800,000
Totals	\$2,778,917	\$3,178,004	\$3,955,294	\$4,128,259	\$4,588,183	\$4,534,283	\$4,741,757	\$5,028,982

# Stormwater Utility

- Both a fee and program for services, much in the same way that one pays for water or sewer service.
- Fees are placed in an enterprise fund and can only be used for stormwater purposes.
- Based on the demand for public stormwater systems, measured by the presence of impervious cover.
- Provides opportunity to offset fees:
  - Credits



# Stormwater Utility

### **How are Costs Distributed amongst Ratepayers?**

• Impervious area (IA) provides link between runoff and need for public services.



# Stormwater Utility

### **What Parcels Are Not Charged?**

#### **Parcels not Charged:**

- Public ROW City & State
- Railroad Ballast the tracks, but office buildings, depots, parking areas are charged



# Stormwater Utility Development Process

### **Development Process**

- Develop a 10 Year Program Financial Forecast
- Complete GIS analysis and rate structure options
- Develop credit and incentive policies
- Inform the public through meetings
- Create billing file for property charges; test and integrate
- Prepare ordinance for Council review and adoption
- Develop customer service plan, training and implementation strategy



# City of Bethlehem User Fee

### **Expectations, Goals, and Purpose**

- Develop a program to meet external (Federal and State) and internal goals.
- Ensure that revenue is <u>adequate</u> to meet longterm needs and <u>stable</u> enough to do so in a cost-efficient manner.
- Distribute program costs in an <u>equitable</u> manner.
   Everyone pays including the City.
- Implement an Enterprise Fund that ensures revenues are <u>dedicated</u> to stormwater management.

City's
Stormwater
Management
Program

# City of Bethlehem User Fee Development

### Rate Base Methodology -**Equivalent Residential Unit** (ERU)

Based on median value of a sample of single-family residential parcel in Bethlehem which is **2,100** square feet.



### **Single-Family Residential**

All single-family detached residential pay a recommended \$60 per year



# City of Bethlehem Rate Recommendation

### **Non-Single Family Residential & Commercial**

- A fee based on your property's parcel, IA, & corresponding ERU
- Each parcel fee based on per **2,100** square feet of IA regardless of land use

#### **Example**



**Step 1** – Identify Parcel



**Step 2** – Overlay with digitized Impervious Areas



**Step 3** – Identify the Impervious Area for that Parcel

IA = 70,336 sq.ft ERU = 70,336 sq.ft/2,100 sq.ft = 33 Fee/yr = 33 x \$60 = \$1,980.00

### Other PA Stormwater Fees

- Allentown
- Easton
- Mt Lebanon
- Philadelphia
- Meadville
- Lancaster
- Radnor
- White Township
- West Chester

- City of Bradford
- Hampden
- Derry Township
- Wyoming County Regional
- West Goshen
- Chester City
- Scranton
- Regional South Williamsport/Duboistown
- Carlisle



### Timeline

Fee Study Started
- April 2019

City updates
Stormwater
Ordinance –
December 2020

City Implements Fee – January 2021 Ratepayers receive first bill – 1<sup>st</sup> Quarter 2021



# What to Expect - Fees

### 1st Quarter of 2021: First Utility Bill

- Single Family Residential pays \$60/yr
- Non-Single Family Residential Fee based on ERU (2,100 sq.ft)
- Commercial Fee based on ERU (2,100 sq.ft)



# Opportunities to Offset

**Credits** - City is currently working on developing a user fee credit structure



# Questions?

24 A presentation by City of Bethlehem

